



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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October 1, 2002

David Miller, Resident Agent
Lodestar Energy, Inc.
HC 35 Box 370
Helper, Utah 84526

Re: Approval of Sedimentation Pond Calculations, Lodestar Energy, Inc., Horizon Mine,
C/007/020-AM02C-1, Outgoing File

Dear Mr. Miller:

The above-referenced amendment is approved effective October 1, 2002. A stamped incorporated copy is enclosed for your copy of the Mining and Reclamation Plan.

If you have any questions, please feel free to call me at (801) 538-5325.

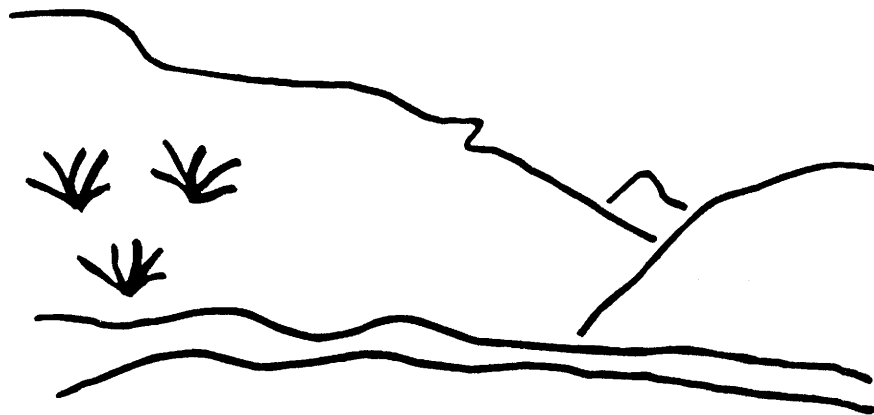
Sincerely,

Daron R. Haddock
Permit Supervisor

an
Enclosure

cc: Ranvir Singh, OSM
Pat Gubbins, BLM
James Kohler, BLM w/o
Mark Page, Water Rights w/o
Dave Ariotti, DEQ w/o
Derris Jones, DWR w/o
Price Field Office
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State of Utah



Utah Oil Gas and Mining

Coal Regulatory Program

Horizon Mine
Sedimentation Pond Calculations
C/007/020-AM02C-1
Technical Analysis
September 30, 2002

TECHNICAL ANALYSIS

TECHNICAL ANALYSIS

The Division regulates the Surface Mining Control and Reclamation Act of 1977(SMCRA). When mines submit a Permit Application Package or an amendment to their Mining and Reclamation Plan, the Division reviews the proposal for conformance to the R645-Coal Mining Rules. This Technical Analysis is such a review. Regardless of these analyses, the permittee must comply with the minimum regulatory requirements as established by SMCRA.

Readers of this document must be aware that the regulatory requirements are included by reference. A complete and current copy of these regulations and a copy of the Technical Analysis and Findings Review Guide can be found at <http://ogm.utah.gov/coal>

This Technical Analysis (TA) is written as part of the permit review process. It documents the Findings that the Division has made to date regarding the application for a permit and is the basis for permitting decisions with regard to the application. The TA is broken down into logical section headings which comprise the necessary components of an application. Each section is analyzed and specific findings are then provided which indicate whether or not the application is in compliance with the requirements.

Often the first technical review of an application finds that the application contains some deficiencies. The deficiencies are discussed in the body of the TA and are identified by a regulatory reference, which describes the minimum requirements. In this Technical Analysis we have summarized the deficiencies at the beginning of the document to aid in responding to them. Once all of the deficiencies have been adequately addressed, the TA will be considered final for the permitting action.

It may be that not every topic or regulatory requirement is discussed in this version of the TA. Generally only those sections are analyzed that pertain to a particular permitting action. TA's may have been completed previously and the revised information has not altered the original findings. Those sections that are not discussed in this document are generally considered to be in compliance.

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TECHNICAL ANALYSIS

INTRODUCTION**INTRODUCTION**

In response to a Notice of Violation (NOV) for discharging water that exceeded the daily maximum allowance of total suspended solids (TSS) from the Horizon mine into Jewkes creek, Lodestar Energy Inc. resubmitted an amendment application on September 10, 2002. The amendment proposes to discharge mine water to the sedimentation pond in the case of emergency. This would allow water with high levels of suspended solids to be held for a sufficient period of time so that the effluent would meet permit limitations.

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INTRODUCTION

OPERATION PLAN

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Sedimentation ponds

There is one sedimentation pond at the Horizon Mine. Located in the southwest corner of the disturbed area, it functions individually. The application states that the total pond capacity is 2.95 acre-feet, with a sediment storage capacity of 1.65 acre-feet (7569.8 ft. elevation). The 60% sediment clean-out volume is 0.99 acre-feet (7566.9 ft. elevation).

The operator has presented two different analyses of the pond. The first is an as-built calculation done by EarthFax to demonstrate that the pond can hold the 10 yr, 24-hour event of 1.11 acre-feet. The second was performed by Summit Engineering to demonstrate that the pond can hold the design event, plus 750 gpm from the mine. The Earthfax calculation was done by hand and uses very conservative reasoning. Summit Engineering used SEDCAD, with its built-in safety factors, which is sufficient to meet the minimum requirements of the regulations.

The as-built calculations are sufficient to demonstrate that the pond can hold the design event safely.

The calculation to prove that mine water can also be held is also sufficient. The worst-case scenario was considered; the mine is discharging continuously at 750 gpm in the hours leading up to the design storm, the pond remaining full at discharge level. Even without the decant pipe in operation, the maximum water/sediment level reached after the design event is 7573.9 feet. This leaves more than one foot of freeboard to the top of the pond embankment at 7575 feet. The calculated 24-hour arithmetic average concentration of suspended solids leaving the pond is 0.00 ml/l; the limit is 0.5 ml/l. Therefore, holding times should be sufficient to meet effluent limitations.

Findings:

The information provided in the proposed amendment is considered adequate to meet the minimum requirements of this section of the regulations.